IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS MARSHALL DIVISION

NETAC TECHNOLOGY CO. LTD.,	§
Plaintiff,	§
	§
v.	§ CIVIL ACTION NO. 5-06-CV-29 (TJW)
	§
PNY TECHNOLOGIES, INC.	§
Defendant.	§
	§

MEMORANDUM OPINION AND ORDER

After considering the submissions and the arguments of counsel, the court issues the following order concerning the claim construction issues:

I. Introduction.

Plaintiff Netac Technology, Co., Ltd. ("Netac") sued defendant PNY Technology Co., Ltd., ("PNY") for infringing United States Patent No. 6,829,672 (the "'672 patent") on February 10, 2006. Netac is a Chinese entity. The two inventors of the '672 patent, Guoshun Deng and Xiaohua Cheng reside in Shenzhen, People's Republic of China.

II. Background of the Technology

The '672 patent contains only method claims. The only claims specifically addressed by the court in this order are claims 1 and 6. Claim 6 is dependent upon claim 1, therefore, any claim term that appears in claim 1 also appears in claim 6. The '672 patent claims and discloses methods for a data processing system to directly access flash memory through a data exchange channel. Claims 1 and 6 specifically identify the Universal Standard Bus ("USB") and the 1394 IEEE bus interface as the standardized buses that act as the data exchange channel.

The external storage device includes flash memory, a connecting universal bus interface, a

microprocessor and a suspend/resume circuit. *See* '672 Patent at 2:36-40. The external storage device is connected with the data processing system through a universal bus interface. *See id*.

The flash memory located in the external storage device must be arranged on a block basis. The patentee expressly disclaims any hardware inventions with respect to the '672 patent. The external storage device is driven by software known as a "driver" and firmware. *See* '672 Patent at 3:15-16. The firmware resides in the microprocessor and the driver is loaded "between the upper layer operating system and the bottom layer operating system." *Id.* At 16-17.

III. General Principles Governing Claim Construction

"A claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using or selling the protected invention." *Burke, Inc. v. Bruno Indep. Living Aids, Inc.*, 183 F.3d 1334, 1340 (Fed. Cir. 1999). Claim construction is an issue of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996).

To ascertain the meaning of claims, the court looks to three primary sources: the claims, the specification, and the prosecution history. *Markman*, 52 F.3d at 979. Under the patent law, the specification must contain a written description of the invention that enables one of ordinary skill in the art to make and use the invention. A patent's claims must be read in view of the specification, of which they are a part. *Id.* For claim construction purposes, the description may act as a sort of dictionary, which explains the invention and may define terms used in the claims. *Id.* "One purpose for examining the specification is to determine if the patentee has limited the scope of the claims." *Watts v. XL Sys., Inc.*, 232 F.3d 877, 882 (Fed. Cir. 2000).

Nonetheless, it is the function of the claims, not the specification, to set forth the limits of

the patentee's claims. Otherwise, there would be no need for claims. *SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). The patentee is free to be his own lexicographer, but any special definition given to a word must be clearly set forth in the specification. *Intellicall, Inc. v. Phonometrics*, 952 F.2d 1384, 1388 (Fed. Cir. 1992). And, although the specification may indicate that certain embodiments are preferred, particular embodiments appearing in the specification will not be read into the claims when the claim language is broader than the embodiments. *Electro Med. Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994).

This court's claim construction decision must be informed by the Federal Circuit's decision in *Phillips v. AWH Corporation*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). In *Phillips*, the court set forth several guideposts that courts should follow when construing claims. In particular, the court reiterated that "the *claims* of a patent define the invention to which the patentee is entitled the right to exclude." 415 F.3d at 1312 (emphasis added) (*quoting Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To that end, the words used in a claim are generally given their ordinary and customary meaning. *Id.* The ordinary and customary meaning of a claim term "is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id.* at 1313. This principle of patent law flows naturally from the recognition that inventors are usually persons who are skilled in the field of the invention. The patent is addressed to and intended to be read by others skilled in the particular art. *Id.*

The primacy of claim terms notwithstanding, *Phillips* made clear that "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in

which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* Although the claims themselves may provide guidance as to the meaning of particular terms, those terms are part of "a fully integrated written instrument." *Id.* at 1315 (*quoting Markman*, 52 F.3d at 978). Thus, the *Phillips* court emphasized the specification as being the primary basis for construing the claims. *Id.* at 1314-17. As the Supreme Court stated long ago, "in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims." *Bates v. Coe*, 98 U.S. 31, 38 (1878). In addressing the role of the specification, the *Phillips* court quoted with approval its earlier observations from *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998):

Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.

Consequently, *Phillips* emphasized the important role the specification plays in the claim construction process.

The prosecution history also continues to play an important role in claim interpretation. The prosecution history helps to demonstrate how the inventor and the PTO understood the patent. *Phillips*, 415 F.3d at 1317. Because the file history, however, "represents an ongoing negotiation between the PTO and the applicant," it may lack the clarity of the specification and thus be less useful in claim construction proceedings. *Id.* Nevertheless, the prosecution history is intrinsic evidence. That evidence is relevant to the determination of how the inventor understood the invention and whether the inventor limited the invention during prosecution by narrowing the scope

of the claims.

Phillips rejected any claim construction approach that sacrificed the intrinsic record in favor of extrinsic evidence, such as dictionary definitions or expert testimony. The en banc court condemned the suggestion made by Texas Digital Systems, Inc. v. Telegenix, Inc., 308 F.3d 1193 (Fed. Cir. 2002), that a court should discern the ordinary meaning of the claim terms (through dictionaries or otherwise) before resorting to the specification for certain limited purposes. *Id.* at 1319-24. The approach suggested by Texas Digital—the assignment of a limited role to the specification—was rejected as inconsistent with decisions holding the specification to be the best guide to the meaning of a disputed term. Id. at 1320-21. According to Phillips, reliance on dictionary definitions at the expense of the specification had the effect of "focus[ing] the inquiry on the abstract meaning of words rather than on the meaning of the claim terms within the context of the patent." *Id.* at 1321. *Phillips* emphasized that the patent system is based on the proposition that the claims cover only the invented subject matter. *Id.* What is described in the claims flows from the statutory requirement imposed on the patentee to describe and particularly claim what he or she has invented. Id. The definitions found in dictionaries, however, often flow from the editors' objective of assembling all of the possible definitions for a word. *Id.* at 1321-22.

Phillips does not preclude all uses of dictionaries in claim construction proceedings. Instead, the court assigned dictionaries a role subordinate to the intrinsic record. In doing so, the court emphasized that claim construction issues are not resolved by any magic formula. The court did not impose any particular sequence of steps for a court to follow when it considers disputed claim language. *Id.* at 1323-25. Rather, *Phillips* held that a court must attach the appropriate weight to the intrinsic sources offered in support of a proposed claim construction, bearing in mind the general

rule that the claims measure the scope of the patent grant. The court now turns to a discussion of the disputed claim terms.

IV. Terms in Dispute

Claim 1 of the '672 patent is representative of the manner in which the disputed terms are used in the asserted claims. Claim 1 is an independent method claim. It states:

An electronic flash memory external storage method, comprising the steps of:

- establishing data exchange channel between a data processing system and a portable external storage device based on USB or IEEE 1394 bus upon plug said portable external storage device into said USB or IEEE 1394 bus interface of said data processing system;
- acquiring a DC power supply from said data processing system for said external storage device through said USB or IEEE 1394 bus upon plug said external storage device into said USB or IEEE 1394 bus interface;
- configuring a flash memory storage module built-in said external storage device, wherein the data storage structure of the flash memory storage module is arranged on a block basis;
- directly accessing data or information in the said flash memory storage module based on USB or IEEE 1394 bus standard through said established data exchange channel by implementing and processing the data access operation requests issued by users, wherein said data processing system assigning and displaying a device symbol for said external storage device and processing the operation request in magnetic disk operation format issued from users upon plug said external storage device into said USB or IEEE 1394 external storage device into said USB or IEEE 1394 interface of said data processing system.

A. Agreed Constructions

The parties have agree to the meaning of a number of claim terms. The court adopts the agreed upon definitions and incorporates them into this order. The agreed upon constructions are as follows:

1. "data exchange channel . . . based on USB or IEEE 1394 bus" means "a signal communicating path for carrying signals that comply with the Universal Serial Bus or IEEE

- 1394 standard."
- 2. "implementing" means "putting into effect or carrying out."
- 3. "operating system" means "software that manages hardware and software resources of a computer."
- 4. "upper layer operating system" means "at least one layer of the operating system above the driver."
- 5. "bottom layer operating system" means "at least one layer of the operating system below the driver."
- 6. "initialization operation" means "an operation that prepares the data processing system and the external storage device to read and write data."
- 7. "operation system" means "software that manages hardware and software resources of a computer¹."
- 8. "read command" means "a command for accessing information."
- 9. "packages" means "preparing information based on a Universal Serial Bus or IEEE 1394 standard."

B, Disputed Constructions

1. "upon plug" (claims 1 and 6)

The parties agree that the term to be construed should be "upon plugging" rather than "upon plug." The plaintiff argues that the plain meaning of "upon plug" is "after plugging." The plaintiff states that there is no time limitation associated with this term and that it should not be construed to include a causal limitation.

¹This is the same definition as "operating system."

The defendant's position is that events occur in the claims only after the portable storage device is plugged into the USB or IEEE 1394 interface. Therefore, the subsequent events must be direct consequences of plugging in the device. The defendant argues against the plaintiff's construction by, *inter alia*, stating that construing "upon plug" to mean "after being plugged in" is no limitation at all. But the defendant fails to provide a tenable argument to the court for further limiting the claim term.

The specification makes it clear that various events occur when the external storage device is plugged in. The specification, however, does not support importing a causal limitation into this claim term. For example, consider the following passages from the specification:

When the external storage device is plugged into the data processing host, the firmware coordinates with the driver in the operating system to accomplish the initialization of the device.

Col. 4, 11. 32-35.

When the external storage device is plugged into the data processing host, the driver coordinates with the firmware to accomplish the initialization of the device and notifies the operating system to assign and display a device symbol for the external storage device (steps S2, S2), then waits for the operation request.

Col. 4, 11. 47-52.

The defendant fail to support its argument that "upon plug" must require the limitation "as a direct consequence." The record does not support that limitation.

The court defines "upon plug" to mean "after being plugged in."

2. "configuring a flash memory storage module" (claims 1 and 6)

The plaintiff asks the court to construe this term to mean "preparing the flash memory chip to receive and respond to commands" and the defendant asks the court to construe the term to mean

"setting up physical storage media and its internal data structure." The specification does not mention the term "configuring."

The defendant argues that the plaintiff's proposed construction is identical to the meaning of "initialization" as used in claim 4 and thereby violates the principle of claim differentiation. The parties agreed to a define "initialization operation" (from claim 4) to mean "an operation that prepares the data processing system and the external storage device to read and write data." The court does not agree with the defendant that the plaintiff's proposed construction is merely a restatement of the parties' construction for "initialization operation."

The defendant devotes most of its argument with respect to this claim term to attacking the plaintiff's proposed construction rather than advocating its own proposal. The defendant's proposed construction is close to a verbatim quote of the specification at col. 4, ll. 15-16. However, the defendant does not explain why the court should adopt that language as its construction apart from arguing that by "reading the claim language as a whole and in context" the "configuring limitation clearly refers to setting up physical storage media of the external storage device and its internal data structure." Defs. Resp. Brf. at 18, 21.

The original application included both method claims and device claims. Claim 21 of the original application was a device claim. App. Ser. No. 09/687/869. All claims were cancelled and the method claims were elected for prosecution and claims 21-33 were added. Claim 21 included both a "configuring clause" and an "arranging" clause as follows:

21. An electronic flash memory external storage method, wherein comprises [sic] steps

configuring a portable external storage device, which comprises an USB or IEE [sic] 1394 interface, a microprocessor, a flash memory storage module and the firmware built-in said microprocessor for implementing and controlling the request of data access operation

[sic] corresponding to with USB or IEEE1394 interface standard between the flash memory storage module and data processing system;

arranging internal data storage structure of the flash memory storage module according to an uniform data block unit. . . . April 28, 2003 Amendment.

Prosecution claim 21 was cancelled and prosecution claims 24-46 were added. Issued claim 1 corresponds to prosecution claim 34. *See* Sept. 2003 Amendment; Oct. 2003 Amendment. The plaintiff argues that the arranging portion of prosecution claim 21 was cancelled, so the "arranging" portion claim 21 was eliminated so that limitation should not be imported into the construction of "configuring." This position is supported by the '672 patent specification.

The specification does not disclose building blocks of memory or forming blocks of memory. Instead, the specification identifies specific chips that are manufactured by third parties that can be used to practice the '672 patent. *See* col. 8, ll. 19-23; col. 11, l. 50-col. 12, l.14. The intrinsic record is clear that the language "method of setting up physical storage media of the external storage device and its internal data structure" from column 4 of the '672 patent does not mean that "configuring... module" includes physically arranging the data setting up the storage media and its internal data structure. The defendant's proposed construction could be interpreted to include that limitation, which was disavowed by the patentees and is not supported by the specification.

In light of the intrinsic record and the plain meaning of "configuring" the term "configuring a flash memory storage module" is defined to mean "preparing a flash memory chip to receive and respond to commands."

3. "directly accessing" (claims 1 and 6)

The plaintiff asks the court to construe this term to mean "communicating with the flash

memory storage module using USB or IEEE 1394 bus protocol without a communication protocol conversion" while the defendant proposes to define the term to mean "accessing the physical addresses of the flash memory without a format conversion." The parties' central dispute regarding this term is whether it requires a format conversion.

"Directly accessing" is not defined in the specification. The parties rely on the prosecution history concerning United States Patent No. 6,199,122 (the "Kobayashi Patent") to support their arguments.

The Kobayashi Patent discloses a connection between the USB port and a memory card operating via the ATA standard. Kobayashi required an ATA controller for communicating with the memory card and required a conversion controller for translating between the USB and the ATA formats. The patent examiner cited the Kobayashi Patent in a January 2003 office action. The '672 applicants argued to the examiner that the '672 patent directly accessed the memory module from the USB port without the standard/protocol conversion that the Kobayashi Patent required. *See* April 2003 Amendment; September 2003 Amendment; October 2003 Amendment. "Direct access" was addressed with the examiner within the framework of a conversion from USB-ATA standard/protocol conversion. In fact, the prosecution history passages cited by the defendant make this point clear:

One of the functions of the external storage device [in Kobayashi] is as a conversion device for providing a conversion operation between the data format of a computer interface (USB) and that of a removable storage card (ATA). . . That means, a data conversion step and a connector based on ATA standards are necessary for accessing data in the removable storage card [of Kobayashi].

. .

In the present invention \dots [t]he data or information access operation to the flash memory storage module of the external storage device is implemented

directly based on the USB or IEEE 1394 standards, i.e., the conversion step contain [sic] in Kobayashi's patent is not necessary for accessing data in the flash memory storage module of the external storage device claimed in claim 34.

. . .

Moreover, no directly accessing data in the flash memory is disclosed in Kobayashi. In Kobayashi, any data access must go through USB/ATA data conversion. . . while the claimed invention provides that users can directly access data in the flash memory from host computer without any data format conversion since the data exchange channel [is] based on one standard either USB or IEEE 1394. . .[T]hus, upon plugging in, the flash memory can be directly accessed from the host computer."

September 2003 Amendment

The '672 applicants further distinguished their application from the Kobayashi Patent using the following language:

[Kobayashi] is used for converting a command of USB specification sent from a USB interface of the computer into a command of ATA specification

April 2003 Amendment

[I]n Kobayashi there is a conversion operation between the data format of a computer interface (USB) and that of a removable storage card (ATA) . . . converting a command of USB specifications

September 2003 Amendment

In Kobayashi, any data access must go through USB/ATA data conversion while the claimed invention provides that users can directly access data in the flash memory from host computer without any data format conversion since the data exchange channel [is] based on one standard either USB or IEEE 1394

October 2003 Amendment

The defendant correctly notes that the patentee chose to use the words "without any data format conversion" in the prosecution history. But that statement must be placed in context and viewed in light of all relevant portions of the intrinsic record. Another passage from the September 2003 Amendment provides guidance:

The data or information access operation to the flash memory module of the external storage device is implemented directly based on the USB or IEEE 1394 standards,

i.e., the data conversion step contained in Kobayashi's patent is not necessary for accessing data in the flash memory storage module of the external storage device claimed in claim 34.

September 2003 Amendment

The prosecution history shows that the '672 applicants waived/disclaimed the conversion from the ATA protocol to the USB or IEEE 1394 Protocol to overcome the Kobayashi Patent.

The specification also supports the plaintiff's construction. At col. 4, ll. 27-30, in describing the preferred embodiment, the specification states that the storage method includes firmware that resides in the flash memory external device and directly controls the access of flash memory. *See also* col. 3, ll. 26-35. A user could not practice the claimed method on the preferred embodiment using the defendant's proposed construction because some format conversion must occur to access the flash memory storage device by implementing and processing the requests issued by users as claim 1 requires.

The court defines "directly accessing" to mean "communicating with the flash memory storage module using USB or IEEE1394 bus protocol without a communication protocol conversion such as a USB to ATA conversion."

4. "processing" (claims 1 and 6)

The plaintiff proposes defining this term to mean "putting through the steps of a prescribed procedure" while the defendant defines the term to mean "manipulating the data access operation requests into a format usable by the external storage device." The plaintiff argues that "processing" is an ordinary word with an ordinary meaning. The plaintiff cites an extrinsic source for the dictionary definition of processing.

The term "processing" occurs twice in claim 1. In the first occurrence, the claim language

addresses directly accessing data or information in the flash memory using the USB or IEEE 1394 standard "...by implementing and processing the data access operation requests issued by users.." The second instance of "processing" in claim 1 is as follows: "processing the operation request in magnetic disk operation format issued from users upon plug..." The patent specification teaches that user requests are converted to special instructions by the driver. *See e.g.*, 2:45-64; 3:19-40. In these passages, the patent specification specifically discloses converting user requests from a magnetic disk storage device to special instructions for the flash memory.

The claim language must be construed in light of the disclosures in the specification and the context of the claim itself. "Processing" means "manipulating the data access operation requests into a format usable by the external storage device."

5. "assigning and displaying a device symbol" (claims 1 and 6)

The plaintiff proposes the following construction: "setting aside for a particular purpose and making available for viewing a representation of a device." The defendant asks the court to construe the term to mean "setting aside for a particular purpose and visually presenting a persistent representation of a storage device." The parties' disagreement centers around the persistent representation of a device and whether the device must be visually represented or simply capable of being visually represented. The relevant claim language provides:

. . . wherein said data processing system assigning and displaying a device symbol for said external storage device and processing the operation request in magnetic disk format issued from users upon plug said external storage device into said USB or IEEE 1394 interface of said data processing system.

The only mention of "displaying" in the specification occurs in a discussion of a preferred embodiment in col. 4 of the '672 patent. Specifically, the patent states that "the driver coordinates

with the firmware to accomplish the initialization of the device and notifies the operating system to assign and display a device symbol for the external storage device. . ." '672 Patent at 4:48-51. This use of "displaying" confirms the plain and ordinary meaning of "displaying" as used in claim 1.

The claim language does not limit or modify "display." The plain meaning of displaying within the context of claim 1 is visually representing a symbol for the external storage device. Nothing in the patent specification suggests that "displaying" means "capable of being displayed" or "making available." Grammatically, "displaying" is present tense active voice of the verb "to display."

The parties also disagree as to the duration of the visual display. The defendant asks the court to read into the claim the limitation that the display must be "persistent" while the plaintiff argues that it is incorrect to add that limitation. There is no support in the intrinsic record for requiring the display to be persistent or indefinite.

The court defines "assigning and displaying a device symbol" to mean "setting aside for a particular purpose and visually presenting a representation of a storage device."

6. "magnetic disk operation format" (claims 1 and 6)

The plaintiff asks the court to define "magnetic disk operation format" to mean "a format applicable to conventional magnetic disk drives" and the defendant asks the court to construe the term to mean "commands capable of being provided to conventional magnetic disk drives." The defendant states in its response brief that "operation requests issued by users in magnetic disk operation format must be usable by magnetic disk drives." This statement is consistent with the ordinary and plain meaning of this claim term.

The plaintiff argues that its proposed construction is also consistent with the plain meaning

of the claim term. But the specification does not support the plaintiff's proposed broad construction.

Consider two examples from the specification:

upper layer operating system receives the read command from the user, wherein the command format is the familiar format used by the legacy magnetic disk.

Col. 5, 11. 47-49.

Under the management of the operating system, users can operate the external storage device the same way operating [sic] a classical disk. Col. 3, ll. 23-26.

Both of these passages describe a format that is usable by the magnetic disks rather than merely "applicable" to a magnetic disk drive. At col. 10, ll. 14-16, the specification states "[b] ecause the format of the write command is the standard magnetic disk operation format, which is different from the operation format of USB and flash memory. . ." Throughout the patent, the specification discloses converting user requests in magnetic disk operation format to special instructions for the flash memory. The specification requires "magnetic disk format" to be more narrowly defined than "applicable to conventional magnetic disk drives."

The court defines "magnetic disk operation format" to mean "a format capable of being provided to conventional magnetic disk drives."

7. "special read instruction" (claim 6)

The plaintiff asks the court to construe this term to mean "output from driver's conversion of a read command," and the defendant asks the court to define the term to mean "a read instruction in a format different from the read command." The plaintiff opposes the defendant's proposed construction because of the defendant's use of "format." The plaintiff agrees that a "special instruction" is different from the read command, but does not agree that the difference is necessarily

format.

The parties' proposed constructions debate whether the read command must be in a different format from the read instruction. The specification states that the standard magnetic disk operation format is different from the operation format of the USB and flash memory. Col. 10, ll. 14-18. The specification further mentions the conversion of magnetic disk operation requests into special instructions at col. 2, ll. 51-57 and col. 3, ll. 26-28.

Claim 6 depends on claim 1 and reads in part as follows:

The external storage method according to claim 1, wherein a read operation comprising steps: upper layer operating system receives the read command from user, wherein the command format is the conventional magnetic disk operation format; upper layer operating system sends said read command to the driver; the driver converts the read command into special read instruction with can be understood and executed by the firmware. . . .

(emphasis added)

The claim explicitly requires the driver to convert the read command in the conventional magnetic disk operation format into a special read instruction that can be understood and executed by the firmware. By requiring the driver to convert the read command into an instruction that can be understood and executed by the firmware, the driver must change the format of the read command or else the word "converts" has no meaning in light of the claim language and the specification.

The court defines "special read instruction" to mean "a read instruction in a format different from the read command."

VI Conclusion

The court adopts the constructions set forth in this opinion for the disputed terms of the '672 patent. The parties are ordered that they may not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from

mentioning any portion of this opinion, other than the actual definitions adopted by the court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the court.

SIGNED this 13th day of December, 2007.

T. JOHN WARD

UNITED STATES DISTRICT JUDGE